

Amendments To The Claims

1. (Currently Amended) A process for measuring the complex impedance of a lead of an active implantable medical device, in particular a pacemaker, a defibrillator and/or a cardiovertor, having a tank capacitor, the tank capacitor having terminals for discharging a stimulation pulse, comprising:

discharging the tank capacitor to produce a stimulation pulse on the lead;

measuring a voltage variation ( $V(t)$ ) at the terminals of the tank-capacitor during said discharge; and

determining a lead impedance ( $Z_s$ ) based upon the measured voltage, wherein:

the step of measuring comprises sampling at least three successive values of the voltage at the terminals of the tank capacitor, and

the step of determining comprises determining separately a resistive component ( $R_s$ ) and a capacitive component ( $Ch$ ) of the impedance of the lead from said at least three sampled values of voltage; and wherein

said determination is operated by an algebraic calculation; and

said sampling comprises sampling a first time, a second time, and a third time, wherein the time of the third time of sampling corresponds to twice the duration between the second time and the first time, and wherein the first time is at the beginning of the stimulation pulse.

2. (Canceled) The process of claim 1, wherein said determination is operated by an algebraic calculation.